

using an exhaustive search type multi-user detector to separate out the resulting interfering signals received at the cell site.

16. A method for increasing the number of users that can communicate with a communication satellite, comprising the steps of:

*A¹
cancel* providing that multiple users transmit on the same frequency at the same time to a satellite; and,

using an exhaustive search type multi-user detector to separate out the resulting interfering signals received at the satellite.

17. A method for increasing the number of users capable of communicating on a wireless network having a transmitting and receiving node, comprising the steps of:

providing that multiple users communicate with the transmitting and receiving node of the network on the same frequency at the same time; and,

using an exhaustive search type multi-user detector which separates out the resulting interfering signals received at the node.
